

CLAIMS

1. A method of differentiation from an embryonic stem cell of a primate into a hematopoietic cell, characterized by maintaining an embryonic stem cell of
5 a primate under conditions suitable for induction of differentiation into a hematopoietic cell, transplanting the resulting cell into a fetus in a uterus of a pregnant sheep, rearing the fetus, administering a cytokine specific for a primate to a born lamb, and obtaining a hematopoietic cell of a primate from a sheep obtained by rearing the lamb.

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2. The method according to claim 1, wherein the method comprises the steps of:

(I) maintaining an embryonic stem cell of a primate on a feeder cell, the feeder cell being a stromal cell strain deficient in macrophage colony-stimulating factor,
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(II) transplanting a primate-derived cell obtained in the step (I) into a fetus in a uterus of a pregnant sheep, and rearing the fetus to birth.

3. The method according to claim 2, wherein in the step (I), an embryonic
20 stem cell of a primate is maintained on a feeder cell in the presence of bone morphogenetic protein 4.

4. A method for producing a hematopoietic cell of a primate, comprising the steps of:

25 (I) maintaining an embryonic stem cell of a primate on a feeder cell, the feeder

cell being a stromal cell strain deficient in macrophage colony-stimulating factor,
(II) transplanting a primate-derived cell obtained in the step (I) into a fetus in a
uterus of a pregnant sheep, and rearing the fetus to birth, and
(III) administering a cytokine specific for a primate to a lamb born in the step (II),
5 and separating a hematopoietic cell of a primate differentiated from the
embryonic stem cell of a primate from a sheep obtained by rearing the lamb.

5. A hematopoietic cell obtained by the method as defined in claim 4.

10 6. A method for producing a chimeric sheep which produces a
hematopoietic cell of a primate, characterized by maintaining an embryonic stem
cell of a primate under conditions suitable for induction of differentiation into a
hematopoietic cell, transplanting the resulting cell into a fetus in a uterus of a
pregnant sheep, administering a cytokine specific for a primate to a born lamb,
15 and rearing the lamb.